Work Order ID 71884

Wednesday, July 13, 2011 11:09:18 AM

Item ID: D6103-003 **Accept** **Setup Start**

Revision ID: **Stop**

Item Name: Round Billet, Aluminum

Start Date: 7/14/2011 **Start Qty:** 20.00 **Cust Item ID:**

Required Date: 7/28/2011 **Req'd Qty:** 20.00 **Customer:**

Reference:

Approvals: **Process Plan:** MF **Date:** 11-07-17 **Tooling:** _____ **Date:** _____ **Run Start**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D6103	Rev B								
100	PURCHASING	0.00							
Purchasing						CL	11/07/14	20	
Purchasing	**Memo**	0.00							
	Issue P/O: 14483 □a)Description: Alluminum round billet□ b) Ø3.500" x 12.500" long□c) Tolerance on all dimensions are +0.030"/-0.000" □ d) Material: 7075-T7351 (QQ-A-225/9)□ Material certification required								
110	Receive & Inspect for Damage & Mat'l Certs	0.00							
Packaging							11/7/28	22	
Packaging	**Memo**	0.00							
	Ensure material certification is attached								
120	QC6- Inspect dimensions to drawing	0.00							
QC						22	0		
Quality Control	**Memo**	0.00							

11/08/02

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevE

Work Order ID 71884

Wednesday, July 13, 2011 11:09:18 AM

Item ID: D6103-003 **Accept** **Setup Start**

Revision ID:

Item Name: Round Billet, Aluminum **Stop**

Start Date: 7/14/2011 **Start Qty:** 20.00 **Cust Item ID:**

Required Date: 7/28/2011 **Req'd Qty:** 20.00 **Customer:**

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: MAT 41	0.00	ck 11/08/02			22	0		
Packaging	**Memo**	0.00							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00				ck 11/08/02			
QC	**Memo**	0.00							
Quality Control									

11-8-02

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevE

Picklist Print

Wednesday, July 13, 2011 11:09:16 AM

1

Work Order ID: 71884

Parent Item: D6103-003

Parent Item Name: Round Billet, Aluminum

Start Date: 7/14/2011 **Required Date:** 7/28/2011

Start Qty: 20.00 **Required Qty:** 20.00

Comments: IPP Rev:A New Issue 06-02-09 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6103-003P round alum billet		Purchased	No			110	Each	0.0000	1	20	20	7/7/28	22

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

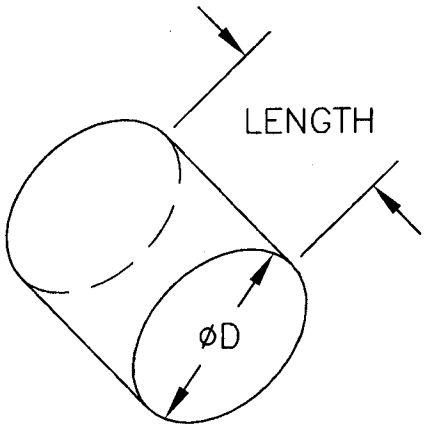
NOTE: Date & initial all entries

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D6103	Rev. B SHEET 1 OF 1
DATE 06.01.31		TITLE ROUND BILLET, ALUMINUM	SCALE NTS

A	01.04.10	NEW ISSUE
B	06.01.31	ADD D6103-003

SPECIFICATION CONTROL DRAWING

RELEASED 06.02.07



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000. ※ 71889

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	D (Diameter)	Length
D6103-001	7075-T6/T651 (QQ-A-200/11 OR QQ-A-225/9)	∅3.250	12.50
D6103-003	7075-T7351 (QQ-A-225/9)	∅3.500	12.50

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevE

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO14483

Purchase Order Date 7/14/2011
PO Print Date 7/14/2011

Order From : VC-MET001

METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100
TORONTO, ON M4Y 3A5
CA

Contact Name		**Buyer**	Chantal Lavoie
Vendor Phone	514 694 9575	**Requisition Nbr**	
Vendor Fax	514 695 3281	**Tax Resale Nbr**	10127-2607
Vendor Account Nbr		**Terms**	Net 30
		Currency	CAD
		FOB	Destination-Collect

Ship To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED CL 7/14

Line Nbr	Reference / Revision ID / Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6103-003P	round alum billet	7/28/2011 Yes	20.00 Each	Yours ppd	$65.0000	$1,300.00

Special Inst: AS PER DWG D6103 REV. B
B71884
MATERIAL: 7075-T7351 AS PER QQ-A-225/9
SIZE: 3.500" X 12.500" LONG
TOLERANCE ON ALL DIMENSION ARE +0.030"/-0.000

PO Total: **$1,300.00**

MATERIAL CERTIFICATION REQ'D UPON DELIVERY

CL

No substitution or deviation without consent.
Certificate of Conformity or Material Certification required when applicable

Change Nbr: 1 **Change Date:** 7/14/2011

Castle Metals®

A. M. Castle & Co.

PACKING SLIP

Shipment No:910470

Ship From:	Sold To:	Ship To:	Deliver To:
A. M. Castle & Co. (Canada) Inc. TORONTO 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA

Date Shipped	F.O.B.	Freight Terms	Carrier	BOL No
27-JUL-2011	ORIGIN	Prepaid	MANITOULIN	910470-2

Shipment Details	Final Destination Branch - TOR

Order No	Line No	Item No	Description
1589781	1	8808.MO	3.5000..RD.7075.T7351.ALUMINUM.CF.144.0000 CUT TO 12.5 IN (+ .0620/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: QQ-A-225/9

Purchase Order No	Part Number	Ordered Qty	Invoice Qty
14483	YOUR ITEM NUMBER: D6103-003	22 PCS	22 PCS

Details

Delivery No.	Mill	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
87257336		MA011003332		22			266.76

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:		Date:	

Date Printed: 07/27/2011 03:35:29 PM

Certified Inspection Report

05/25/11
09:30:29

Alcoa Inc.
Massena Operations
Park Avenue East, Massena, NY 13662

ALCOA

Customer	Customer P.O. No.	Customer Part No.	Alcoa Order No.	Govt. Contract No.
Castle A M & Co	109532	(8808)	MMC-97150- -002	

Ship To A. M. Castle & Company
3400 North Wolf Road
Bay #7
Franklin Park, IL 60131

We hereby certify that the material covered in this report has been inspected in accordance with, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and have the mechanical properties shown on the face of this sheet. Manufactured under an ISO/QS-9000 registered quality management system.
Melted and manufactured in the USA.
Thomas J. Klemp, Quality Assurance Manager

Thomas J Klemp

Date Shipped	05/25/11	Weight Shipped	10,104 lbs	Product	CFRB-CF ROD	Specific Length	BOL 000159457
Alloy - Temper	7075-T7351	Size	3.50000 IN	Shape	DIA	Config 12 FT	QRR

Specifications:

A97075-11 Rev 10 w/exc & comments per T Klemp email dtd 1/5/10
Material conforms to T73 requirements
Minimum mechanical properties to apply:
68 KSI Tensile Strength
56 KSI Yield Strength
10% Elongation
AMS 4124D (Except Size)
QQA-225/9E (Except Size)
ASTM B211-03 (Except Size)
AMS-QQA-225/9 (Except Size)

Product produced and marked to the requirements of AMS-QQ-A-225/9 also meets the requirements of QQ-A-225/9.
Product produced and marked to the requirements of QQ-A-225/9 also meets the requirements of AMS-QQ-A-225/9.

TEST REQUIREMENTS		Test U.T.S.	Test T.Y.S.	Test %Elong	Test Cond	Test	Test	Test	Test	Test	Test
	Max:		67.9								
	Min:	68.0	56.0	10.0	38.0						

Test Results

Lot / Work Order	No. of Tests		Test U.T.S.	Test T.Y.S.	Test %Elong	Test Cond	Test	Test	Test	Test	Test	Test
MA011003332	1	Max:	72.3	61.2	15.0	41.1						
		Min:	72.3	61.2	15.0	41.1						
MA011003333	1	Max:	71.0	59.4	15.0	41.4						
		Min:	71.0	59.4	15.0	41.4						
MA011004085	1	Max:	72.3	61.0	15.0	40.9						
		Min:	72.3	61.0	15.0	40.9						

TEST ABBREVIATIONS
U.T.S. Ultimate Tensile Strength KSI
T.Y.S. Tensile Yield Strength KSI
%Elong Elongation % in 2"
Cond Conductivity % IACS

Aluminum Association Chemical Composition Limits (in Weight %)

ALLOY		%SI	%FE	%CU	%MN	%MG	%CR	%ZN	%TI	%Others	%Others	%AL			
7075	MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05 Each	0.15 Total	Rem			
	MIN			1.2		2.1	0.18	5.1							

Certified Inspection Report

05/25/11
09:30:29

Alcoa Inc.
Massena Operations
Park Avenue East, Massena, NY 13662

ALCOA

Customer	Customer P.O. No.	Customer Part No.	Alcoa Order No.	Govt. Contract No.
Castle A M & Co	*109532*	*(8808)*	*MMC-97150- -002*	

Actual Started Chemistry

LOT/WORK ORDER		%SI	%FE	%CU	%MN	%MG	%CR	%ZN	%TI	%OE	%OT	%AL			
	MAX	*0.08*	*0.15*	*1.6*	*0.02*	*2.5*	*0.20*	*5.7*	*0.02*	*LT 0.05*	*LT 0.15*	*Rem*			
MAO 11003332	MIN	*0.06*	*0.12*	*1.4*	*0.01*	*2.3*	*0.20*	*5.5*	*0.02*						
	MAX	*0.08*	*0.12*	*1.6*	*0.02*	*2.5*	*0.20*	*5.7*	*0.02*	*LT 0.05*	*LT 0.15*	*Rem*			
MAO 11003333	MIN	*0.07*	*0.12*	*1.4*	*0.02*	*2.3*	*0.20*	*5.5*	*0.02*						
	MAX	*0.08*	*0.15*	*1.6*	*0.02*	*2.5*	*0.20*	*5.7*	*0.02*	*LT 0.05*	*LT 0.15*	*Rem*			
MAO 11004085	MIN	*0.06*	*0.12*	*1.4*	*0.01*	*2.3*	*0.20*	*5.5*	*0.02*						

NOTES:

Mercury is not a normal contaminant in aluminum alloys and neither it nor any of its compounds are used in the manufacture of our product.

This alloy meets the requirements of EU 2002/95/EC (RoHS) and EU 2000/53/EC for lead, mercury, cadmium and hexavalent chromium.

Castle Metals FP

HEAT NUMBER MA011003332
MECHANICAL ID
ITEM CODE 8808
LOT NUMBER
PO NUMBER 109532
RECEIPT DATE 5-31-2011
SUPPLIER ALCOA
SPECIFICATION
LCS NO
COMMENT
APPROVED DS